Product sheet

HCC187 Cells | 305781

General information

Description	HCC1187 is a human breast carcinoma cell line established from a primary ductal breast tumor of an adult patient. It exhibits a triple-negative phenotype, lacking expression of estrogen receptor (ER), progesterone receptor (PR), and HER2, which is characteristic of basal-like breast cancers. HCC1187 is part of a panel of cell lines developed to represent the molecular diversity of breast cancers, and has been extensively profiled in multiple large-scale genomic and proteomic studies including the Cancer Cell Line Encyclopedia (CCLE) and The Cancer Genome Atlas (TCGA)-aligned analyses. This cell line displays complex genomic alterations commonly observed in high-grade breast tumors, such as copy number variations and a high burden of somatic mutations. Proteomic analyses reveal that HCC1187 has a proteomic profile aligned with basal-like breast tumors, including elevated expression of cytokeratins associated with basal epithelial cells and low levels of luminal markers. Quantitative proteomics also show that HCC1187 clusters with other triple-negative breast cancer (TNBC) lines based on pathway-level protein expression, demonstrating dysregulation in pathways related to DNA damage repair, cell cycle progression, and apoptosis. These properties position HCC1187 as a valuable model for studying TNBC biology and testing targeted therapeutics for basal-like or BRCA1-deficient breast cancer subtypes. HCC1187 has also been included in comprehensive mutational studies of breast cancer, contributing to the understanding of mutation frequency patterns and the landscape of driver versus passenger mutations. Studies have shown that although individual tumors harbor numerous mutations, only a subset significantly contributes to cancer progression. In HCC1187, several such driver mutations and pathway alterations have been identified, making it a key model for exploring the genetic basis of tumorigenesis and for developing personalized therapeutic approaches.
Organism	Human
Tissue	Breast
Disease	Breast ductal carcinoma
Synonyms	HCC-1187, Hamon Cancer Center 1187

Characteristics

Age	41 years
Gender	Female
Ethnicity	Caucasian
Morphology	Epithelial
Cell type	Epithelial cell

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Growth properties	Mixed: adherent and suspension

Regulatory Data

Citation	HCC1187 (Cytion catalog number 305781)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1247

Biomolecular Data

Protein expression	Progesterone receptor, negative
Antigen expression	Epithelial glycoprotein 2 (EGP2); cytokeratin 19
Oncogenes	Her2/neu-; p53+
Tumorigenic	Yes, the tumor was classified as TNM stage IIA, grade 3, invasive ductal carcinoma.
Mutational profile	Mutation: TP53, Simple, p.Gly108del (c.322_324delGGT), Homozygous (Cosmic-CLP=749711)

Handling

Culture Medium	RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	Accutase
Doubling time	100 hours
Fluid renewal	2 to 3 times per week

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Freeze medium	As a cryopreservation medium, we use complete growth medium (including FBS) + 10% DMSO for adequate post-thaw viability, or CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.
Thawing and Culturing Cells	1. Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit. 2. Upon receipt, either store the cryovial immediately at temperatures below -150°C to ensure the preservation of cellular integrity, or proceed to step 3 if immediate culturing is required. 3. For immediate culturing, swiftly thaw the vial by immersing it in a 37°C water bath with clean water and an antimicrobial agent, agitating gently for 40-60 seconds until a small ice clump remains. 4. Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening. 5. Carefully open the disinfected vial and transfer the cell suspension into a 15 ml centrifuge tube containing 8 ml of room-temperature culture medium, mixing gently. 6. Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium. 7. Gently resuspend the cell pellet in 10 ml of fresh culture medium. For adherent cells, divide the suspension between two T25 culture flasks; for suspension cultures, transfer all the medium into one T25 flask to promote effective cell interaction and growth. 8. Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.
Incubation Atmosphere	37°C, 5% CO_2, humidified atmosphere.
Shipping Conditions	Cryopreserved cell lines are shipped on dry ice in validated, insulated packaging with sufficient refrigerant to maintain approximately −78 °C throughout transit. On receipt, inspect the container immediately and transfer vials without delay to appropriate storage.
Storage Conditions	For long-term preservation, place vials in vapor-phase liquid nitrogen at about −150 to −196 °C. Storage at −80 °C is acceptable only as a short interim step before transfer to liquid nitrogen.

Quality Control & Molecular Analysis

Sterility	Mycoplasma contamination is excluded using both PCR-based assays and luminescence-based mycoplasma detection methods. To ensure there is no bacterial, fungal, or yeast contamination, cell cultures are subjected to daily visual inspections.